

**RETURN WITH BID DOCUMENT**

**MINIMUM SPECIFICATIONS FOR THE PURCHASE AND INSTALLATION OF  
MULTI PURPOSE BODIES, FRONT PLOW, RIGHT AND LEFT WING PLOW AND  
CALCIUM PREWET SYSTEM FOR SINGLE AXLE PATROL TRUCK CHASSIS TO BE SUPPLIED  
BY MILWAUKEE COUTY  
(HIGHWAY)**

**1 SCOPE AND CLASSIFICATION**

- 1.1** It is the intent of this bid to describe the requirements for the purchase and installation of two (2) MULTI PURPOSE DUMP BODIES / DUMP & SPREADER DESIGN, 10' REVERSABLE PLOW, 9' RIGHT SIDE AND LEFT SIDE WINGPLOW and CALCIUM PREWET SYSTEM. These items are to be provided and installed on Kenworth T470 single axle chassis that will be furnished to the successful vendor by Milwaukee County.

**2. DOCUMENTS**

Each vendor shall provide two (2) complete bid packages including informational/promotional literature that describes the equipment to be installed.

**3. REQUIREMENTS**

**THE COMPLIANCE SPACE MUST BE COMPLETED THOROUGHLY AND ACCURATELY. IF VENDOR CHECKS "NO" TO MEETING ANY OF THE SPECIFICATIONS, THEY MUST INCLUDE A WRITTEN EXPLANATION AND ATTACH IT TO THE BID.**

**3.1 CHASSIS**

**3.1a FRONT BUMPER**

- 1.** The front bumper shall be 12" by 3" by ¼ " painted steel with a Bustin Firm Grip, or equal, step bar that is approximately 1" wide, welded to the top side of the bumper.
- 2.** Two (2) steps, one (1) right hand and one (1) left hand, shall be welded under the bumper. The tread of each step shall be Bustin Sure Grip, or equal. Exact location to be determined with successful bidder.
- 3.** Bid Compliance      Yes\_\_\_      No\_\_\_

**3.1b INNER-FENDERS**

- 1.** The vehicle shall be equipped with Minimizer MIN2260 poly fenders along with Minimizer B100BTSA stainless steel brackets to cover each rear tire.

The Minimizer should also have a rubber mud flap attached to the rear bottom.

2. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.2 DUMP BODY FOR FLOW AND DUMP

#### 3.2a SIZE

1. Heavy duty multipurpose body design with an approximate 9.74 / 12.6 cubic yard capacity. The unit will be capable of discharging salt via dual 7" augers to a rear mounted spinner assembly and be capable of conventional dumping of material through a tailgate.
2. The body shall be designed with a 22 degree floor to side angle. Radius dump box spreader & flat floor designs will not be accepted.
3. Inside dimensions shall be exterior 11' / interior 10' long, 95" wide with 48" high sides, 60" front end and 60" tailgate.
4. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.2b CONSTRUCTION

1. The entire body shall be 100% continuous welded construction. The sides and the auger floor shall be constructed of seven (7) gauge 201 stainless steel.
2. Long sills to be fabricated from seven (7) gauge 409SS formed inner/ten (10) gauge 409SS formed outer to form a trapezoidal formation. Chanel style long sills will be unacceptable.
3. Ten (10) gauge 201 stainless steel boxed top rail, seamless design sloped inward to shed debris. This design is critical to providing the specified 96" body width. Bodies that are not 96" O.D. and do not have a dirt shedding top rail will not be acceptable.
4. 201 stainless steel full length integral fenders shall be continuously welded.
5. Double acting external, front mount, non inverted trunnion lift cylinder. Dog house style lift cylinders will not be accepted. Cylinder to include nitride cylinder sleeves and a 5 degree oscillating cylinder collar. 6" x 8" x 1/2" rear hinge assembly with 2" 303 stainless steel pins connecting through a 2 1/2" greaseable hinge block. Two (2) year cylinder warranty. Inverted cylinders, chrome plated cylinders and rear hinges that are not greaseable are unacceptable.
6. Two (2) safety legs, attached to the truck frame shall be furnished to support the weight of the body. The safety legs shall have the ability to be locked in place.

7. Tailgate must be double-acting tailgate and included spread chains. The design should be such that there is no inadvertent salt distribution from the augers when it is not running. Tailgates that are not double acting will be unacceptable.
8. 22" x 78" ten (10) gauge 201 stainless steel continuously welded cab shield seven (7) gauge 201 stainless steel sides / ends to properly support the cab protector for the life of the body.
9. The body shall be equipped with an air release tailgate to consist of highly reliable dual pancake type air latch with dual over center linkage. This system is industry proven in adverse conditions and must remain latched even if air pressure is lost. Cylinder style air trip release will not be accepted.
10. The body feed system will consist of dual 7" diameter variable pitch augers. The augers must be counter rotating to help prevent bridging of material.
11. Each auger is driven at the front by a 24.7 CIR hydraulic motor which is directly coupled to a 3.6:1 planetary gearcase with 2.5 in. dia. shaft couple to the end of the auger shaft with a 7/8" cross bolt.
12. Auger shafts utilize a polyurethane bushing at both ends of each auger to eliminate seizing and ensure ease of maintenance.
13. Auger shafts connect at rear with 2" diameter 2-bolt flange bearings.
14. All moving parts shall be protected by guards(s) that comply with all Federal, State and local safety requirements.
15. A removable cover plate constructed of 3/16" AR400 steel for the augers will be provided.
16. A foldable three (3) step stainless steel ladder shall be welded to the passenger side of the multipurpose dump body near the cab. The step rise shall be approximately 12" and the tread shall be grip punch material approximately 1". In addition a step constructed of grip punch material approximately 1" wide will be welded on the inside of the box on the passenger side across the corner between the side wall and the cab protectors. Exact locations to be determined with successful bidder.
17. Two stainless steel spring loaded shovel holders shall be attached to each side of the box. They shall be offset and bolted to a plate that is welded to the box.
18. The body shall include a screen weldment installed just above the augers. Screen shall be constructed of 1/2" diameter bar. The cross bars shall be spaced to provide a clear 3"x4" opening.
20. Body shall have installed from factory a set of heavy duty top grate screens to assist in keeping individuals out of the auger area of the body. Heavy duty top screen assemblies shall be constructed of 3/8" rod through 1.4" x 2" flat with 3" x 3" centers. Screen frame assemblies shall be constructed of 7ga end panels and side frame support. Screen hinge beam shall be constructed of 3"x 3"x 1/4" angle. Screen assemblies shall be retained down at the sides of the dump body to prevent quick opening and entrance to the auger area of the spreader.
21. Body to have an integral rear asphalt lip.

22. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.3 COLOR

#### 3.3a DUMP BODY

1. The entire multipurpose dump body, both inside and out, shall be furnished in natural stainless 2B finish. No substitute shall be accepted.
2. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.3b BUMPER

1. The bumper shall be painted black.
2. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.4 TRAILER LIGHTS/BRAKES & PINTLE HOOK

#### 3.4a DESCRIPTION

1. Electric trailer brakes shall be installed with the controller in the cab of the vehicle and the female connection to be located at the rear of the vehicle.
2. Trailer light connection shall be installed to terminate at the rear of the vehicle with a Velvac model # 055052 sic (6) pin female weatherproof plug.
3. A Holland TA90A swivel type pintle hook with a mounted height of 29 ½" to 31 ½" shall be installed on a reinforced crossmember. No substitute shall be accepted. The location shall be determined with successful bidder
4. All wiring shall be tinned and marine grade.
5. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.5 LIGHTING/ALARM

#### 3.5a DESCRIPTION

1. All lighting shall comply with State of Wisconsin State Highway Maintenance Manual, Policy 51.05 effective January 1, 2005.
2. Auxiliary lighting shall be controlled by a minimum of 7 – 15 amp lighted rocker switches that are integral with the console.

3. An amber Whelen model R2LPHPA LED warning light shall be mounted on a self-leveling bracket located in the center of the front leading edge of the dump box cab protector. No substitute shall be accepted. The light must have an external ground wire to the frame.
4. Four (4) Whelen TIR-3 high intensity L.E.D. amber alternating strobe lights shall be mounted, two (2) on the vertical portion of the rear of the dump box, and two (2) in protective stainless steel boxes facing backward on the cab protector at the outer ends. The L.E.D. lights shall be wide angle with 60 to 120 flashes per minute.
5. The vehicle shall have two (2) Whelen 5GR01BRT high intensity white, wide angle L.E.D. back-up lights and two (2) Whelen 5GC00WCR high intensity wide angle red L.E.D. brake/turn lights mounted on the vertical portion of the rear of the dump box directly below the two (2) high intensity L.E.D. strobe lights. Three (3) oval light holes to be factory punched in each rear corner post.
6. A 300 candle power Unity amber fog light #511-1 with black Meca coat housing will be mounted on the right side of the vehicle that will focus forward on the wing plow and be controlled by an individual switch located in the cab. The exact mounting location will be determined with the successful bidder.
7. A 300 candle power Unity amber fog light #511-1 with black Meca coat housing will be mounted on the driver side rear of the vehicle to shine on the salt spread pattern. The light shall not be visible to the rear at a distance greater than 50'. The exact mounting location will be determined with the successful bidder.
8. All auxiliary lighting is to be closed and sealed.
9. The vehicle shall be equipped with a Smart Alarm or Velvac model 697066 self-adjusting back-up alarm. No substitute shall be accepted.
10. All wiring shall be tinned and marine grade.
11. Bid Compliance      Yes\_\_\_      No\_\_\_

### 3.6 HYDRAULICS

#### 3.6a Hydraulic Pump

1. The pump shall be Force America FASD45. No substitutes will be accepted.
2. Bid Compliance      Yes\_\_\_      No\_\_\_

#### 3.6b HIGH PRESSURE BALL VALVE

1. A 1" inside diameter high-pressure ball valve shall be installed at the discharge side of the pump to shut-off pump flow in case of an emergency breakdown.
2. Bid Compliance Yes\_\_\_ No\_\_\_

**3.6c HIGH PRESSURE FILTER**

1. A high-pressure filter should be installed in the pressure line before the valve to rid any contaminants from clogging the valve passage upon start-up. The filter shall be an Inter-Norman filter assembly part number HP17125VG30EPUG5S2AE7050P. No substitute shall be accepted.
2. Bid Compliance Yes\_\_\_ No\_\_\_

**3.6d HYDRAULIC PUMP**

1. The hydraulic pump shall be mounted with shaft centerline parallel to the crankshaft centerline and at a level not to exceed a three (3) degree angle on the drive line. Pump mounting shall be incorporated with a bracket fabricated to mount in the extended frame rails of the truck.
2. Bid Compliance Yes\_\_\_ No\_\_\_

**3.6e HYDRAULIC VALVE**

1. The hydraulic valve shall be of modular manifold design. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The hydraulic control valves shall be pulse-width modulated, proportionally controlled. Each hydraulic valve segment shall be Force America Add-A-Fold. No substitute shall be accepted. The valve segments shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. All segments shall have heavy-duty continuous duty coils and connections shall be with LED style Hirshman connectors. No substitutes shall be accepted. All coils shall operate at 12 VDC, require a maximum of 1400 milli-amps and have an 80 millisecond shift time. Each segment shall be equipped with a rack and pinion manual override except for the auger, spinner and prewet sections. Valve sections must have adjustable stroke limiter flow controls for each function. Valve segments shall be Force America Add-A-Fold. No substitutes shall be accepted. They shall be arranged as follows:
  - a. Hoist, double acting cylinder with down side work port relief set at 500 PSI, 40 GPM
  - b. Plow lift, double acting cylinder, C10812 Power Float  
21 GPM

- c. Flow angle, double acting cylinder, 21 GPM
- d. Left Wing toe, double acting cylinder, 21 GPM
- e. Left Wing heel, double acting cylinder, 21 GPM
- f. Left Wing push arm, double acting cylinder, 21 GPM
- g. Right Wing toe, double acting cylinder, 21 GPM
- h. Right Wing heel, double acting cylinder, 21 GPM
- i. Right Wing push arm, double acting cylinder, 21 GPM
- j. Auger, single acting and pressure compensated, 15 GPM
- k. Spinner, single acting and pressure compensated, 5 GPM
- l. Prewet, single acting and pressure compensating, 5 GPM

2. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.6f HYDRAULIC RESERVOIR/ENCLOSURE AND FILTRATION

- 1. The valve and tank assembly enclosure shall house the valve, return line filter, filler/breather, liquid level and temperature sensor, prewire valve cable connectors, valve fittings and hoses under one (1) rubber latched cover. The assembly shall be mounted in such a way that the cover can be removed while the hoist is in the lowered position.
- 2. The valve/tank assembly shall incorporate the following features:
  - a. Gasketless passive seals designed to eliminate salt spray while venting moisture.
  - b. Tri-point mounting to prevent tank cracks and weld failures due to truck frame flex.
  - c. Tank capacity shall be 35 gallons and be of a stepped design to promote favorable head pressure for the pump.
  - d. The return line tank top filler shall be a high capacity 5-micron microglass filter with a 12VDC25PSI, or equal, bypass pressure switch wired to a filter bypass warning on the MA 5100 Patrol Commander in the truck cab.
  - e. A removable/serviceable inlet strainer to protect the pump from contamination.
  - f. Locking filler/breather cap.
  - g. External mounted 5" fluid level/temperature indicator.
  - h. Swing-out valve mounting plate for easy access for valve maintenance and hose replacement.
  - i. Integral rear exiting hose guard.
  - j. Valve plate to accept Force America Add-A-Fold Valve.

- k. Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be a 16-micron absolute and rated for no less than 60 GPM. Filter shall be Model TEF31016VG16SP-UG60E115, or equal, and include visual and electric bypass indicators. A warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.
- l. One (1) sight glass mounted on the front side of the reservoir.
- m. There shall be a shut-off valve on the reservoir.
- 3. The hydraulic reservoir shall be filled with Chevron 1000 hydraulic oil which is to be dyed blue for ease of maintenance. No substitute shall be accepted.
- 4. The valve and tank combination enclosure shall be Force America VT-35. No substitutes shall be accepted.
- 5. Bid Compliance Yes\_\_\_ No\_\_\_

**3.6g HYDRAULIC LINES**

- 1. The suction line to the pump shall be 2" minimum inside diameter wire braided hose, non-collapsible type rated to 400 PSI minimum.
- 2. 316 seamless stainless steel lines to be piped for hydraulic functions. Due to deflection, stainless lines are not to be hard piped. Jumper hoses to be used and kept as short as possible. Stainless lines to be piped to the front and to the rear of the chassis and located not to interfere with O.E.M. equipment that requires routine maintenance. Heavy duty plastic tubing clamps to be used to secure stainless lines together in a uniform manner. All brackets and fasteners used to secure lines will be stainless steel.
- 3. Stainless steel Aeroquip type fittings shall be used for all the hydraulic lines and quick disconnects.
- 4. No thread seal tape is to be used, use only Loctite Hydraulic Seal #545. No substitutes shall be accepted.
- 5. All whip hoses to be secured to prevent chafing and pinching.
- 6. All whip hoses are to be mounted to allow dumping of the body without being disconnected.
- 7. Bid Compliance Yes\_\_\_ No\_\_\_

**3.6h FRONT PLOW CUSHION VALVE**

- 1. A Gresen cushion valve, model DXV-50-1800, shall be mounted to the top of the bumper, left side, 25" from the bumper center line. No substitutes shall be accepted. High pressure, multiple wire, braided hoses for plow angling shall be mounted to this valve. Aeroquip couplings and a 24" high-pressure hose, to form a return circuit, shall be mounted on the right front of the



cushion valve. No substitute shall be accepted. A female coupling shall be assembled to the end of the flexible hose.

2. A manual pressure release manifold shall be installed at the front bumper of the truck to allow pressure to bleed down at the plow hose couplers. Pressure release manifold shall be Force America part number C10190. No substitutes shall be accepted.

3. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.7 CONTROL CENTER

#### 3.7a CONTROL CENTER GENERAL

1. The Control Center is to be a Patrol Commander ULTRA MPJC-5100-4-ARM-LCD. No substitutes shall be accepted.
2. The Control Center shall be fully adjustable; up and down, front to back and left to right. The exact mounting location will be determined with successful bidder.

3. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.7b SPREADER CONTROLS

1. The electronic spreader control shall be a Force America model SSC 5100 LCD with FB-512 sensor. No substitutes shall be accepted.
2. Force America system also to have LCD display to show direction of the direct cast spinner assembly

3. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.8 SPREADER

#### 3.8a DESCRIPTION

1. The spinner shall be heavy duty, 18"-20" diameter, 3/8" thick, urethane disc with six molded fins.
2. Material spread width shall be from 4 – 40 feet.
3. The spinner is to be capable of being swung under the chassis or easily removed when not in use.
4. A shield of 16-gauge steel shall be fastened to the front on the spinner shroud to protect the pintle hook, hydraulic fittings and brake line fittings.

5. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.9 CALCIUM PREWET SYSTEM

#### 3.9a CONTROLS

1. The prewet system shall be Varitech hydraulic closed loop. No substitutes shall be accepted.
2. The prewet controller shall be incorporated into the SSC 5100 LCD control center.
3. The controller shall be capable of calibration in ounces per revolution of flow meter and be ground speed oriented to accurately apply liquid with relation to conveyor discharge and vehicle speed.
4. There shall be an alert system to warn the operator of malfunction and /or empty tanks.
5. The liquid shall be measured on the discharge side of the pump.
6. It shall be the responsibility of the vendor to deliver the unit calibrated to Milwaukee County specifications.
7. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.9b PUMP

1. The pump shall be a 9 GPM corrosion resistant positive displacement bronze pump. The pump shall have a maximum pressure of 100 PSI and have an operating range of -40 to 210 degrees F. The drive motor shall be a 5 GPM hydraulic drive motor. The feedback sensor shall be a 12 pulse polypropylene rotary flow meter with cabling.
2. Factory installed poly Liquid tanks shall mount to the body fenders and be capable of 105 gallons per tank. One (1) each side.
3. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.9c MISCELLANEOUS

1. The spray bar shall be brass with necessary nozzles for proper application of calcium.
2. All connecting fittings shall be constructed of brass.
3. A corrosion resistant pressure valve shall be in place to prevent liquid siphoning when the system is not operating.
4. All components including piping, hoses and clamps shall be constructed of corrosion resistant materials such as stainless steel or PVC.
5. All wiring is to be tinned and marine grade.
6. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.10 10 FOOT REVERASBLE PLOW

**3.10a PLOW**

1. The plow shall be a Wausau Trip Edge Plow, Model HSP4210 with a “mailbox cut” on the upper right and left. No substitutes shall be accepted.
2. The plow shall have a spray guard bolted to the top moldboard flange or reinforcement. It shall be 12” wide by 3/8” thick rubber belt, metal retaining strap and necessary mounting hardware to follow the contour of the plow.
3. S.A.M. Part No. 1308200, or equal, plow guides shall be mounted on the uppermost corners of the moldboard.
4. The plow shall be equipped with “parking stands” to level the plow when not in use.
5. The cutting edge shall be Huck Bolted to the moldboard.
6. The plow shall be equipped with carbide curb shoes approved by Milwaukee County.
7. The plow shall have a ½” cover blade over the carbide cutting edge.
8. Bid Compliance      Yes\_\_\_      No\_\_\_

**3.10b HITCH**

1. The hitch shall be a heavy duty Wausau model 225C drop pin loop receiver quick hitch. No substitutes shall be accepted.
2. The hitch shall be designed so that the lift arm and hydraulic ram is capable of collapsing and pinning to a stowage position when the plow is not in use.
3. The hitch shall be mounted to the truck frame in such a fashion that the hood of the vehicle may be opened without removing the hitch.
4. Bid Compliance      Yes\_\_\_      No\_\_\_

**3.10c PLOW HYDRAULICS**

1. The plow hydraulic system shall be heavy-duty construction utilizing only Stainless Steel Aeroquip style fittings. No substitutes shall be accepted.
2. The plow shall be mounted so as to provide an 11” clearance from the ground to the cutting edge when the plow is raised.
3. Bid Compliance      Yes\_\_\_      No\_\_\_

**3.10d PLOW/HITCH INSTALLATION**

1. The plow and hitch shall be installed by Wausau-Everest. No substitutes shall be accepted.

2. It must be possible to check all engine fluid levels with the plow mounted.

3. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.10e PLOW ACCESSORIES

1. Nordic 952-019U & 020U halogen plow lights along with (2) 956-013 U harness kits shall be mounted on reinforced stainless steel brackets on the front fenders so that their light beam clears the top of plow moldboard in the raised position. The center of the lights shall be a minimum of 60" from the ground.
2. The plow lights shall be high intensity discharge plow lamps which are interchangeable left to right.
3. Plow lights shall be connected to the O.E.M. up-fitter headlight switch and have a selector switch. Chassis will be equipped with plow up-fitter harness and switch.

4. All wiring shall be tinned and marine grade.

5. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.11 WING PLOW – RIGHT

#### 3.11a PLOW

1. The plow shall be a Wausau PWP-9RHTE with dual function trip edge wing and automatic return. No substitutes shall be accepted.
2. The wing plow shall have a carbide cutting edge Huck bolted to the moldboard and a ½" cover blade over the cutting edge.
3. The wing plow shall have red and white reflective marking tape placed on the rear of its moldboard.
4. The plow shall be equipped with a curb shoe approved by Milwaukee County.
5. Bid Compliance Yes\_\_\_ No\_\_\_

#### 3.11b WING MOUNTING

1. The wing must be positioned to give the maximum visibility to the passenger side when in the raised position as well as permit access to the battery box.
2. There shall be a support bar mounted from the rear wing cross tube to the truck frame.

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3. The rear push arm shall incorporate a heavy duty hydraulic cylinder to allow for adjustment of arm length from the control console and a spring loaded shock absorber system of a size consistent with the shock loads incurred in snow wing operations.
4. There shall be grease fittings located to allow for lubrication of the internal sliding members and all pivot points of the push arm.
5. The push arm is to be protected with a quick release cushion valve of a size adequate for the snow wing.
6. The wing shall have a lock valve, adjustable cushioned push rod, safety chain to lock the wing in the vertical position and a Wing Guide, S.A.M. Part Number 1308200, or equal, mounted on the uppermost part of the plow moldboard.
7. There shall be a removable front wing post with hydraulic side shift cylinder hoses to reach the wing circuit when side shifted out. Aeroquip couplers mounted inside the bumper for when the side shift cylinder is not in use. No substitute shall be accepted.
8. A wing stop is to be installed so that it contacts the rear adjustable push bar on the wing when in the raised position to prevent the wing from hitting the door and/or mirror when the truck is moving.
9. It must be possible to check all engine fluid levels with the wing mounted.
10. The wing plow shall have a Whelen Wing plow 3AA L.E.D. warning light mounted at the heel end which will provide clear warning of the wing deployed or the wing stored, to be mounted to a heavy duty bracket and not bolted through moldboard.
11. The wing plow shall be installed by Wausau-Everest. No substitutes shall be accepted.
12. Bid Compliance Yes\_\_\_ No\_\_\_

3.12 WING PLOW – LEFT

3.12a PLOW

1. The plow shall be a Wausau PWP-9LHTE with dual function trip edge wing and automatic return. No substitutes shall be accepted.
2. The wing plow shall have a carbide cutting edge Huck bolted to the moldboard and a ½” cover blade over the cutting edge.
3. The wing plow shall have red and white reflective marking tape placed on the rear of its moldboard.
4. The plow shall be equipped with a curb shoe approved by Milwaukee County.
5. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.12b WING MOUNTING

1. The wing must be positioned to give the maximum visibility to the driver side when in the raised position as well as permit access to the valve / reservoir combination
2. There shall be a support bar mounted from the rear wing cross tube to the truck frame.
3. The rear push arm shall incorporate a heavy duty hydraulic cylinder to allow for adjustment of arm length from the control console and a spring loaded shock absorber system of a size consistent with the shock loads incurred in snow wing operations.
4. There shall be grease fittings located to allow for lubrication of the internal sliding members and all pivot points of the push arm.
5. The push arm is to be protected with a quick release cushion valve of a size adequate for the snow wing.
6. The wing shall have a lock valve, adjustable cushioned push rod, safety chain to lock the wing in the vertical position and a Wing Guide, S.A.M. Part Number 1308200, or equal, mounted on the uppermost part of the plow moldboard.
7. There shall be a removable front wing post with hydraulic side shift cylinder hoses to reach the wing circuit when side shifted out. Aeroquip couplers mounted inside the bumper for when the side shift cylinder is not in use. No substitute shall be accepted.
8. A wing stop is to be installed so that it contacts the rear adjustable push bar on the wing when in the raised position to prevent the wing from hitting the door and/or mirror when the truck is moving.
9. It must be possible to check all engine fluid levels with the wing mounted.
10. The wing plow shall have a Whelen Wing plow 3AA L.E.D. warning light mounted at the heel end which will provide clear warning of the wing deployed or the wing stored, to be mounted to a heavy duty bracket and not bolted through moldboard.
11. The wing plow shall be installed by Wausau-Everest. No substitutes shall be accepted.
12. Bid Compliance      Yes\_\_\_      No\_\_\_

### 3.13 AUTOMATIC GREASING SYSTEM

#### 3.13a DESCRIPTION

1. The vehicle shall be equipped with a HDS automatic greasing system that greases the chassis and suspension. It shall be a 4 KG system with a pneumatic pump unit with follower plate, closed, sealed clear reservoir that can only be filled through an in-line grease filter and nylon lines.

2. The system shall have brass injectors with stainless steel mounting hardware, heavy-duty corrosion-resistant pistons and cylinder lines in the air side of the system and deliver 950 PSI to the grease points.
3. The pump housing shall be corrosion resistant that can be rebuilt.
4. The unit electronics shall be installed in the cab.
5. The unit shall have an audible alarm and warning light located in the cab; a solenoid with a light in it; a system pressure check built into the timer when minimally 50% of the greasing cycle is completed; a timing system capable to readout the number of cycles, number of alarms and consecutive alarms; a grease low level warning with system shutdown; parallel/single line operating system; red/green grease pressure indicator on the pump to indicate last cycle performance.
6. Bid Compliance Yes\_\_\_ No\_\_\_

### 3.13 RUSTPROOFING

#### 3.13a DESCRIPTION

1. The entire vehicle shall be protected against rust by Ziebart or Tuff-Kote Dinol. Dry film thickness shall be 10 – 15 mil. minimum. No substitutes shall be accepted.
2. Bid Compliance Yes\_\_\_ No\_\_\_

## 4. GENERAL SPECIFICATIONS

### 4.1 NEW EQUIPMENT

- 4.1a The equipment shall be the current, new and unused model built by the manufacturer. The equipment must be delivered completely assembled and ready for operation at the time of delivery.

### 4.2 PARTS AND SERVICE

- 4.2a The vendor must have an authorized parts and service facility located within 110 miles of Milwaukee County with a sufficient stock of parts and trained technicians to service the equipment bid.

### 4.3 MANUALS

- 4.3a** The successful vendor shall, upon delivery, furnish one (1) complete set of parts and service manuals that may be written or CD Rom that cover the equipment specified. The manuals may be waived if the information is available to Milwaukee County on-line.

**4.4 TRAINING**

- 4.4a** The successful vendor shall, at a time mutually agreeable with Milwaukee County, provide six (6) hours of training to operators and service technicians covering the operation and maintenance of the equipment if requested.

**4.5 WARRANTY**

- 4.5a** The warranty shall start the first day the vehicle is placed in service. The manufacturer shall warrant the furnished equipment and devices against parts failure or malfunction due to design, construction, installation or errors in assembly of components, defective materials and workmanship. The vendor shall include with the bid document a warranty statement outlining the base warranty covering the vehicle/equipment bid.
- 4.5b** Should any vehicle in this bid encounter a defect while under warranty, the vendor will be responsible for all costs associated with transporting the vehicle to and from an authorized service facility. The vendor will be required to respond to all warranty requests for service, including picking-up of the vehicle, within 24 hours of being contacted by Milwaukee County Fleet Management. All repairs covered under warranty are to be completed on a timely basis.

**4.6 ALTERNATIVES AND APPROVED EQUAL**

- 4.6a** If an approved equal is requested, the bidder shall request consideration for approved equal status by submitting the appropriate documentation demonstrating equal status a minimum of ten (10) working days prior to the time scheduled for bid opening. Milwaukee County reserves the right to not consider requests that are submitted without adequate documentation and/or less than (10) working days prior to the time scheduled for bid opening.

**4.7 DEMONSTRATION**

- 4.7a** Milwaukee County reserves the right to request a demonstration of any bidder's proposed equipment prior to issuance of a purchase order.

**4.8 PRICE AND DELIVERY**

- 4.8a** The price bid for the equipment must be **NET PRICE DELIVERED**. Any bid modifying or "escalator" clauses will not be considered.



- 4.8b The vendor shall state the length of time required for delivery of the first vehicle to Milwaukee County. Delivery to Milwaukee County of the first vehicle must occur within 45-60 days of the vendor receiving the base chassis from Milwaukee County.**